Attributions, Affect, and Adjustment in Teachers: A Process Model

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Introduction

Teacher attrition has become a growing epidemic with an estimated 40% of teachers leaving the teaching occupation within the first five years (Roness, 2011). Teachers experience burnout when they lack adequate coping strategies (Cunningham, 1983) or the psychological resources required to persist when the difficulties of their work become excessive (Schwarzer & Hallum, 2008). Burnout has been identified as a consequence of occupational stress (Antoniou, Polychroni & Vlachakis, 2006; Blase, 1982; Kokkinos, 2007, Kyriacou, 1987; Manassero et al., 2006; McCormick, 1997; McCormick & Shi, 1999), with one of the main sources of stress for teachers being low student achievement (Blase, 1986). Generally, research has found that teachers tend to accept responsibility for academic success of their students, but fail to do the same for student academic failures (Darom & Bar-Tal, 1981). The way in which teachers attribute failures in their students determines subsequent goals, intentions to assist their students, perceptions of self-efficacy, and emotional experiences (Reyna & Weiner, 2001). Very few studies have been done to assess the effects of teachers' causal explanations for their students' poor performance on their own emotions, psychological adjustment (e.g., burnout, job satisfaction), or behaviors (e.g., intentions to quit).

According to Weiner's Attribution Theory (1974, 1985, 1995, 2006), an individual will endeavour to explain or attribute causes for a failure experience that can be categorized as (a) internal/external to the individual, (b) stable/unstable over time, and (c) personally controllable/uncontrollable. In educational settings, Weiner's Attribution Theory has been used to assess the academic implications of students' explanations for failure ranging from teacher effectiveness and task difficulty (external) to personal aptitude and effort (internal; Van Overwalle, 1989, 1997). Students who adopt controllable attributions generally feel better, work harder, and are able to get higher grades due to the fact that they tend to believe they can improve while assuming responsibility for themselves (Hall et al., 2004, 2007). Similarly, the more a student's performance is perceived by a teacher as personally controllable in nature (e.g., due to lack of teaching effectiveness), the more likely it is that the teacher will take responsibility for this outcome and attempt to help the students improve their academic prognosis (Bibou-Nakou et al., 1999; de Jesus & Lens, 2005; Georgiou, 2002; Gosling, 1994; Manassero et al., 2006, Matteucci & Gosling, 2004; McCormick, 1997).

According to attribution theory, causal attributions result in emotional experiences that, in turn, have implications for behavioral and psychological adjustment outcomes. Similarly, Pekrun's (2000) control-value theory of achievement emotions postulates that one's appraisals of an event, concerning its value and perceived controllability, lead to specific emotions and behaviors (Pekrun, 2000). With respect to teachers, Frenzel and colleagues have identified three main emotions experienced by teachers – anger, anxiety, and enjoyment – the former derived from attribution theory (elicited following specific outcomes) and the latter two derived from control-value theory (experienced during teaching activities). Frenzel et al. (2009) further state that cognitive appraisals concerning personal accountability (judgements about who is responsible for the outcome) are an important antecedent of specific emotional experiences in teachers (e.g., anger), and that emotions such as anger can impact teachers' psychological well-being and instructional behaviors over time (Frenzel et al., 2009).

For example, anger has been found to predict teacher attrition and lower levels of job satisfaction (Frenzel, 2009). Other studies have also shown anger be one of the most detrimental emotions for teachers and a contributor to one's inability to sufficiently cope with classroom challenges (i.e., self-regulation failure; Sutton, 2007). Previous research with students by Van Overwalle et al. (2005) has

utilized structural equation modelling to assess the sequencing of attributions, emotions, and performance as outlined in Weiner's model, evaluating the links between the critical dimensions of causal attributions (internality, stability, personal control, external control), several emotional experiences specific to achievement outcomes (e.g., hope, anger) and learning activities (e.g., anxiety), and the effects of each of these variables on course grades.

However, whereas previous research has evaluated the effects of causal attributions on teacher behaviour (Tollefson & Chen, 1988), teachers stress (McCormick & Shi, 1999), and burnout (Manassero et al., 2006), in teachers, research with teachers to date has not yet employed more refined existing measures of causal attributions, for example, in which a self-reported attribution is subsequently rated according to its dimensions (as in Van Overwalle et al., 2005). Moreover, studies with teacher have yet to evaluate the effects of teachers' attributions on activity-related emotions (e.g., anxiety, enjoyment; cf., Frenzel et al., 2009), or assess the relations between these variables and adjustment or behavioral outcomes in a mediational model consistent with Weiner's sequential theory of achievement motivation. The present study therefore aims to fill this research gap in these three ways, by employing a newly adapted measure to assess the relations between the dimensions underlying teachers' attributions and their emotions regarding teaching outcomes (anger) and activities (enjoyment, anxiety), as well as psychological adjustment (burnout, job satisfaction), and behavioral intentions (to quit).

Method

Participants and Procedure

Practicing teachers ($N = 536$) were recruited in Canada from Quebec and Ontario via mass emails from school principals and teaching union representatives to complete a web-based questionnaire consisting of demographic items as well as measures related to teaching-related motivation, emotions, and self-regulation. Teachers were entered into a cash prize draw in exchange for their participation. The mean age of the participants was 40.89 years ($SD = 10$) with the gender composition being 78 men to 450 woman. The average education level was 3, the mean number of years employed in the teaching profession was 12.87 years ($SD = 8.64$) and roughly equivalent numbers of primary ($n = 258$), secondary education teachers ($n = 216$) and CEGEP teachers ($n = 31$) were obtained.

Measures

CDS II (Causal Dimension Scale). This 12-item measure assessed the dimensions underlying a specific reported attribution for students' poor performance (locus of causality: four items, $M = 2.9$, $SD = 1.7$, α = .88; stability: four items, $M = 23.5$, $SD = 1.9$, α = .65; personal control: four items, $M = 4.3$, $SD = 1.9$, α = .88; external control: four items, $M = 6.1$, $SD = 1.7$, α = .77). The scale was adapted from the student version developed by McAuley et al. (1992) and required participants to first identify the perceived cause for why their students may perform poorly, after which 12 subsequent 9-point items were completed to assess the each of the four causal dimensions postulated in Weiner's theory (sample items for internality: "reflect as aspect of myself" vs. "reflect an aspect of the situation"; stability: "is stable over time" vs. "s variable over time"; personal control: "something that I have power over" vs. "something that I have no power over"; external control: "under the power of over people" vs. not under the power of other people").

Teacher Emotions Scale. A 12-item, 4-point Likert measure (Frenzel, 2009) was used to assess teachers' activity-related emotions of anxiety (four items; $M = 1.7$, $SD = .65$, α = .76; e.g., "I feel uneasy when I think about teaching") and enjoyment (four items; $M = 3.5$, $SD = .50$, α = .76; e.g., "I generally enjoy teaching") as per Pekrun's control-value theory, as well as the outcome-related emotion of anger (four items; $M = 1.4$, $SD = .51$, α = .77; e.g., "I often feel annoyed while teaching") as per Weiner's attribution theory (1 = *strongly disagree* to 4 = *strongly agree*).

Burnout. Burnout was assessed using three subscales obtained from a 22-item, 6-point Likert measure (Maslach Burnout Inventory (1986), to evaluate emotional exhaustion (nine items; $M = 2.6$, $SD = 1.3$, α =

.91; e.g., "I feel emotionally drained from my work"), personal accomplishment (eight items; $M = 4.8$, $SD = $ .74, α = .74; e.g., "I can easily understand how my students feel about things"), and depersonalization (five items; $M = 1.7$, $SD = .97$, α = .93; e.g., "I feel students blame me for some of their problems"; 0 = *never* to 6 = *everyday*). The measure was adapted from the original to refer more specifically to "students" as opposed to "recipients."

Job Satisfaction. A 5-item scale by Moe et al. (2010) was employed to assess job satisfaction ($M = 5.1$, $SD = 1.4$, α = .89). Each item was ranked on a 7-point Likert scale (e.g., "In most ways my job is close to my ideal"; 1 = *strongly disagree* to 7 = *strongly agree*).

Intention to Quit. A 3-item scale by Hackett et al. (2001; Occupational Commitment Scale) was used to assess teachers' intentions to quit ($M = 1.8$, $SD = .98$, α= .86) This 5-point measure ranged from 1 = *very unlikely* to 5 = *certain* (e.g., "I intend to move into another profession/occupation").

Analyses

The root mean squared error approximation (RMSEA) and the comparative fit index (CFI) were used to assess goodness of fit (Tabachnick & Fidell, 2012). A structural equation model (SEM) was subsequently evaluated to evaluate the hypothesized directional relationships between attributions, emotions, and adjustment/behavioural outcomes in teachers. SEM analyses included direct paths from attributions to adjustment variables and indirect paths from attributions to the outcome variables through emotions.

Results

Fit indices showed the hypothesized model to have satisfactory fit (CFI = .864, RMSEA = .049). As hypothesized, personally controllable attributions were the most adaptive in positively predicting positive emotions (enjoyment) and negatively predicting negative emotions (anxiety and anger). Similarly, attributions that were unstable in nature predicted better emotions that, in turn, had more adaptive effects on adjustment and behavior. Internality was shown to have a positive relationship with anxiety and anger, while having a negative relationship with enjoyment.
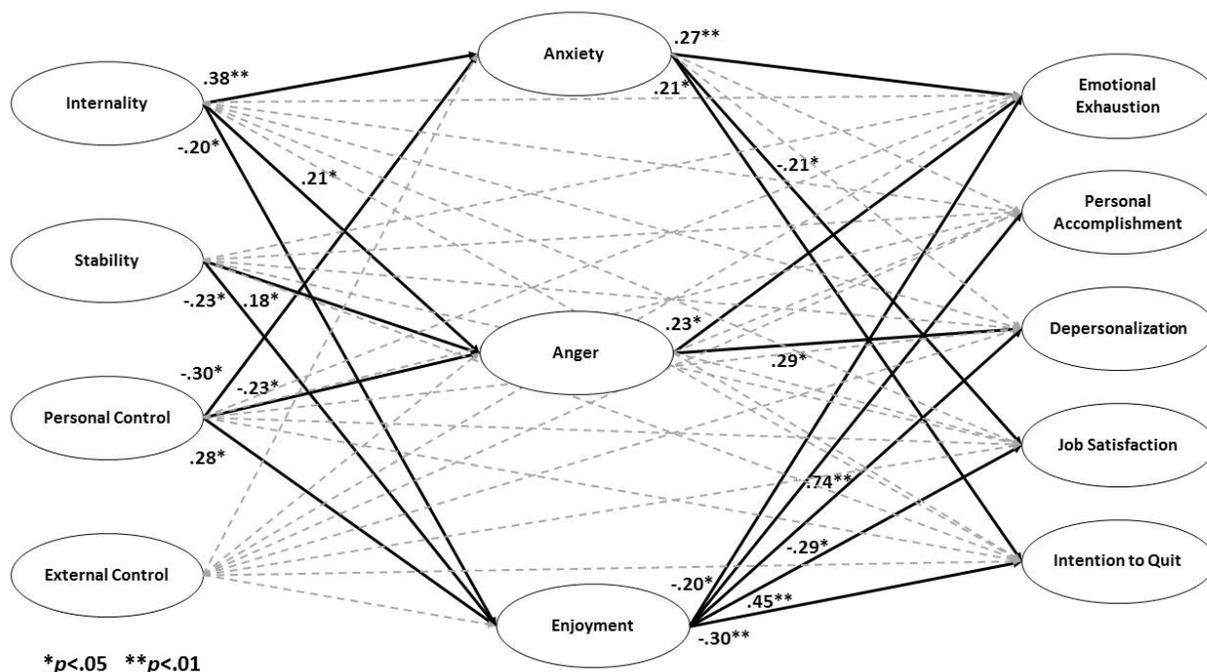
Figure 1. Structural equation model from attributions to adjustment variables through emotions.

Discussion

Structural equation modeling revealed no direct paths from attributions to adjustment outcomes. Instead, anticipated indirect paths were found from teachers' attributions to their adjustment and behavioral intentions through emotions. The present findings thus provide empirical support for the application of Weiner's attribution theory to the study of cognitions, emotions, and adjustment in teachers in showing attributions to have indirect effects on burnout, job satisfaction, as well as intentions to quit. The results further showed anxiety to be positively related to emotional exhaustion and intentions to quit, and negatively related to job satisfaction, with anger also positively predicting feelings of depersonalization and emotional exhaustion. Finally, enjoyment negatively predicted teachers' intentions to quit, emotional exhaustion, and depersonalization, and positively predicted personal accomplishment and job satisfaction, highlighting the importance of positive emotions in instructional settings.

An unanticipated effect of internal attributions on each emotion was also observed, emotions that, in turn, translated into maladaptive effects on adjustment and behavioral intentions. Although discouraging, it is possible that this effect may be due to muticolinearity in that a sizable and significant correlation between internality and personal control was observed ($r = .71$, $p < .001$). As such, one likely explanation for these results may be that including personal control as a simultaneous predictor alongside internality effectively removed the beneficial elements of internal attributions (e.g., to lack of effort) leaving the uncontrollable attributions (e.g., to lack of ability) associated with internality to be assessed. Nevertheless, as the model was evaluated in a manner consistent with prior research, with each measure from the adapted version of Machuleys CDSII evaluated in a single structural equation model (Van Overwalle et al., 2008), and supplemental analyses excluding internality showed effects of similar magnitude for personal controllability. In sum, our results suggest that the way in which teachers chose to explain their students' poor performance can play an important role in predicting how they subsequently feel about their job with respect to specific emotional experiences that in turn, can have serious implications for indicators of burnout as well as job satisfaction and intentions to quit.

Word Count: 1949

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